## CLAIMS

1. Acetabular implant of the type comprising a screw type cup which receives an articular insert, the cup having, at the periphery, and in particular in the tropical/equatorial zone (2) thereof, screwing means which are intended to be introduced into the bone material of the acetabulum during the screwing action, the cup carrying a coating which facilitates osteointegration, such as, in particular, a selective calcium hydroxyapatite coating, characterized in that the coating is of the thick type on the convex portions (1, 10) of the outer surface of the cup, including in the zones or troughs or recesses of threads (10) that are left free in the screwing means, whilst that coating has a lesser thickness, or is even absent, on the screw reliefs or threads (11).

2. Implant according to claim 1, characterized in that the thickness of the coating of the thick type is from 100 to 200 micrometres.

3. Implant according to claim 2, characterized in that the coating thickness is in the order of 150 ± 35 micrometres.

4. Implant according to any one of claims 1 to 3, characterized in that the screw reliefs have a coating in the order of 50 ± 30 micrometres.

5. Implant according to any one of claims 1 to 3, characterized in that the screw reliefs (11) do not have any coating and have a rough surface.

6. Implant according to any one of claims 1 to 5, characterized in that the screwing means is arranged in

order to traumatize as little as possible the acetabular bone site, in which the threads are introduced, and in order to have a maximum convex surface-area, that is to say, troughs (10) between the sides of threads (11) in order to facilitate, in this region, osteointegration by contact osteogenesis and remodelling under stress, the screw relief being arranged in order to apply a self-tapping cutting effect during the screwing action and an effect involving compression of the sponge-like bone.

7. Implant according to claim 6, characterized in that, in a thread pitch, the proportion of the thread width, in the region of the trough, relative to the pitch, is from 0.2 to 0.5.

8. Implant according to any one of claims 1 to 7, characterized in that the cross-section of the threads is asymmetrical in a diametral plane, with a smaller angle in the order of from 5 to 10° at the polar side (7) of the thread, and a greater angle in the order of from 15 to 20° at the equatorial side (8), in order to bring about a good compression effect when the bone which receives the threading is placed under stress.

9. Implant according to any one of claims 1 to 8, characterized in that the crests of threads (11) are relieved, with a leading edge which is radially higher than the remainder of the crest, whose radial height decreases towards the rear of the thread.

10. Implant according to any one of claims 1 to 9, characterized in that the leading edge is itself inclined, by being formed by a milling pass which is strongly inclined in a biased manner relative to the inclination of the

threading itself, the leading edge (12) itself being orientated aggressively forwards relative to the radial.

11. Implant according to any one of claims 1 to 10, characterized in that the threading pitch is regular in order to bring about a single bone groove, in which successive threads are introduced during the screwing rotation.

12. Implant according to any one of claims 1 to 11, characterized in that the screwing means has a threading formed by zones of threads (5) which are separated by inclined grooves (6) defining the cutting edges.

13. Implant according to any one of claims 1 to 12, characterized in that the screwing means has a spherical threading of constant pitch.

14. Method for producing the implant cups according to any one of claims 1 to 13, wherein a cup is produced, for example, from titanium alloy, having a threading in the equatorial zone thereof, the outer surface of the cup is processed in order to roughen it, for example, with the action of sand or corundum, and a coating of osteointegrating material, such as, and in particular, calcium hydroxyapatite, is positioned on that cup surface, characterized in that the step for coating with osteointegrating material is carried out so as to bring about a thick deposit on the convex surfaces of the cup, including the troughs which separate the adjacent threads and with the coating with that material on the sides and edges of the threads being reduced or omitted.

15. Method according to claim 14, characterized in that a torch of the plasma type is used in order to project and secure, on the rough surface of the cup, the material which is intended to form that coating and the thickness of the deposit which forms the coating on the threads is reduced by temporarily modifying the angle of inclination of the torch and/or by modifying the relative travel speed between the torch and the cup, and/or by temporarily modifying the flow-rate of powdered calcium hydroxyapatite.

16. Method for producing implant cups, characterized by the following steps:
- the number of cups which are or are not coated with calcium hydroxyapatite to be produced is established beforehand, optionally with modification during the production operation;
- the non-coated cups are produced and they are subjected to a processing operation which is intended to roughen the surface thereof;
- in the overall production established in this manner, the proportion of cups which are intended to receive a coating of osteointegrating material, such as calcium hydroxyapatite, is established;
- the coating of that cup is carried out in accordance with either claim 14 or claim 15;
- all the cups are packaged and sterilized in order to be contained in individual sterile packagings, the packagings having different markings in order to distinguish the coated cups from the non-coated cups.